

CALIFORNIA HORSE RACING BOARD

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**Postmortem Examination Review Summary #004**

Horse Information: 2-year-old Quarter Horse.

Incident Summary: This horse was performing a workout during morning training on the dirt track at the Los Alamitos Racecourse in Los Alamitos, CA. The horse was injured just before the finish line and pulled up at the 7/8ths pole. The horse was vanned off the track, sedated with detomidine and butorphanol by the attending veterinarian, and euthanized at 11:00 A.M. with pentobarbital.

Necropsy Summary: A necropsy examination revealed open fractures of the medial and lateral (comminuted, axial avulsion and mid-body to basilar) proximal sesamoid bones in the left forelimb. There was extensive sclerosis affecting the lateral proximal sesamoid bone along the axial margin and surrounding the abaxial aspect. The fracture configuration and the pattern of sclerosis are highly suggestive of a possible osteopenic focus in the abaxial location of the lateral sesamoid bone (which is often seen in medial sesamoid bone fractures associated with pre-existing lesions). Additional changes included: open chip fractures of the left proximal phalanx (P1); bilateral, severe dorsal metacarpal disease; biaxial parasagittal fissures in the distal right cannon bone; and degenerative changes in the right middle carpal joint and left radiocarpal joint. Bone samples (tuber coxae, radius, and rib) were analyzed by Liquid Chromatography tandem Mass Spectrometry (LC-MS/MS) for the presence of the bisphosphonate drugs, clodronate and tiludronate. The drugs were not detected.

Racing/Training History: This horse was started under saddle 6 months prior to injury at a training center and progressed normally in the early training program to performing workouts from the gate. The horse then continued training at Los Alamitos and alternated gallop and walk days. The assistant trainer at Los Alamitos noted the horse had a right front "shin" (dorsal metacarpal disease) upon arrival at Los Alamitos. This seemed to resolve as the veterinarian did not appreciate soreness of the shin upon examination days later. The trainer reported that the plan was after the work the horse would have radiographs obtained of the limbs as was standard for that owner.

Veterinary History Summary: The horse received Adequan. A pre-work exam performed one day prior to injury determined the horse was fit to work. There was no mention of the dorsal metacarpal inflammation that was found at necropsy and there was no mention of any fetlock abnormalities. On the day of injury, the horse received furosemide and a vitamin booster. Previously, over a year prior, the horse had routine radiographs obtained as was standard for all yearlings at the farm. Notes from the veterinarian were: Left front fetlock: mineralization/fragment lateral sesamoid. Right front fetlock: mineralization/fragment lateral sesamoid (base).

Pre-race Examinations: N/A

Conclusion: This horse sustained open fractures of the medial and lateral proximal sesamoid bones in the left forelimb. There was extensive sclerosis affecting the lateral proximal sesamoid bone. This finding is surprising in a young, un-raced 2-year-old. Radiographs obtained over a year prior to injury, before the horse began training, revealed mineralization or a fragment of the lateral sesamoid bones in both forelimbs. This case is unusual because pre-existing lesions are uncommon in the lateral sesamoid bone, and this horse had not accumulated a large amount of high-intensity exercise as is commonly associated with sesamoid bone fractures. This horse did not display clinical signs associated with the fetlock joints; however, the assistant trainer noted a recent flare up of dorsal metacarpal disease in the right 'shin.' The pre-work examination performed the day prior to the fatal injury did not mention the shin condition. It is unknown if the horse had been compensating for a lesion in the left front lateral sesamoid by overloading the right front limb and causing the flare-up localized to the shin, or vice versa. Consideration should be given for pursuing advanced diagnostic imaging in horses that have chronic or active dorsal metacarpal disease as this could be an early indicator for horses at risk of catastrophic injury.